

Patent claims

1. Airbag for installation in a motor vehicle with at least one main chamber (10) and at least one auxiliary chamber (30), whereby main chamber (10) and auxiliary chamber (30) are connected with each other by means of a connecting opening (14), and an outflow opening (35), characterised in that the outflow opening (35) is allocated to the auxiliary chamber (30) and a closing element is present which blocks or throttles the gas flow through outflow opening (35) when the auxiliary chamber (30) meets an obstacle if the airbag is expanded or during expansion of the airbag.
2. Airbag according to Claim 1, characterised in that the airbag is in the form of a side airbag, whereby main chamber (10) forms a thorax chamber and auxiliary chamber (30) is positioned in the top area of the main chamber.
3. Airbag according to Claim 2, characterised in that a pelvic chamber (20) is located in the lower area of main chamber (10).
4. Airbag according to any of the previous claims, characterised in that
 - the auxiliary chamber (30) exhibits an inner chamber (32) with an inner fabric layer (32a) and an outer chamber (36) with an outer fabric layer (36a),
 - the outer fabric layer (36a) is connected in sections with the fabric (10a) of the main chamber (10) and the connecting opening (14) is located between the outer fabric layer (36a) and the fabric (10a) of the main chamber (10),
 - the inner fabric layer (32a) exhibits a valve opening (34), through which the gas can stream from the outer chamber (36) into the inner chamber (32) and from there to outflow opening (35).

5. Airbag according to Claim 4, characterised in that a section of the outer fabric layer (36a) serves as a closing element for valve opening (34).
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6. Airbag according to Claim 4 or 5, characterised in that the inner and outer fabric layers of the auxiliary chambers are basically in tubular form.
- 10 7. Airbag according to any of Claims 1 to 3, characterised in that the closing element is formed by a covering fabric (64).
8. Airbag according to any of Claims 1 to 3, characterised in that two auxiliary chambers (30a, 30b) are present.
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9. Airbag according to Claim 8, characterised in that each of the two auxiliary chambers exhibits an inner fabric layer (55,56), whereby the two inner fabric layers lie opposite one another and that when the airbag is fully expanded, an open intermediate layer (62) is present between the two inner fabric layers.
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10. Airbag according to Claim 9, characterised in that the two auxiliary chambers are connected with each other via an outer capture tape (60).
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11. Airbag according to Claim 9 or Claim 10, characterised in that the out-flow openings (35) of the two auxiliary chambers end in intermediate area (62).
- 30 12. Airbag according to any of Claims 9 to 11, characterised in that its cover is manufactured of two fabric sections.

13. Airbag according to any of Claims 9 to 12, characterised in that two outer and two inner fabric layers (51,52; 55,56) are present and that all four fabric layers are joined to each other in a connection area (57).

Summary

In order to achieve improved protection of the occupants of a motor vehicle,
5 an airbag is proposed which, when necessary, provides different hardnesses
depending on the size of the vehicle occupant. For this, the airbag exhibits at
least one main chamber (10) and at least one auxiliary chamber (30),
whereby the main chamber (10) and auxiliary chamber (30) are connected
with each other via a connecting opening (14). Furthermore, an outflow open-
10 ing is present, from which gas can flow out of the airbag. The outflow opening
is allocated to the auxiliary chamber (30), and a closing element is present
which, when the auxiliary chamber (30) meets an obstacle when the airbag is
expanded or during expansion of the airbag, blocks or throttles the gas flow
through the outflow opening (Fig. 2).